

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number
WO 2005/042637 A3

(51) International Patent Classification⁷: **C09K 11/06,**
C08L 57/00

Padova 178, I-20100 Milano (IT). **MARINOTTO,**
Daniele [IT/IT]; Via Aosta 15, I-20051 Limbiate (IT).

(21) International Application Number:
PCT/IB2004/003513

(74) Agents: **CATTANEO, Elisabetta** et al.; c/o Perani Mezzanotte & Partners, Piazza San Babila, 5, I-20122 Milano (IT).

(22) International Filing Date: 25 October 2004 (25.10.2004)

(25) Filing Language: Italian

(26) Publication Language: English

(30) Priority Data:
MI2003A002110 31 October 2003 (31.10.2003) IT

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (for all designated States except US): **POLITECNICO DI MILANO** [IT/IT]; Piazza Leonardo da Vinci 32, I-20133 Milano (IT).

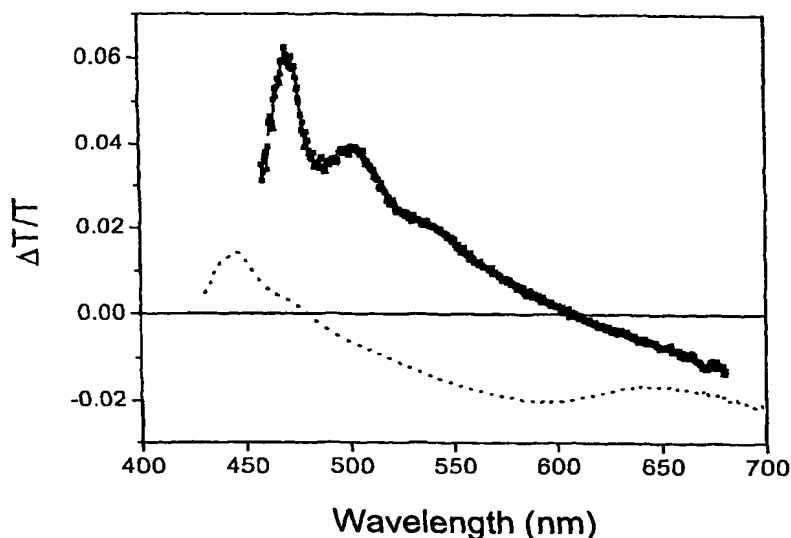
(72) Inventors; and

(75) Inventors/Applicants (for US only): **LANZANI, Guglielmo** [IT/IT]; Via Petrocchi Policarpo, 21/SC.D, I-20127 Milano (IT). **VIRGILI, Tersilla** [IT/IT]; Via

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: POLYMERIC MIXTURE COMPRISING A POLYFLUORENE DERIVATE AND USE THEREOF AS OPTICAL DEVICE



(57) Abstract: This invention relates to a polymer mixture comprising a polymer which is transparent at a wavelength of more than 300 nm and poly(9,9-XY-fluorene), in which X and Y are independently of each other a straight or branched saturated or unsaturated C₁-C₁₂ hydrocarbon chain and the said poly(9,9-XY-fluorene) is substantially dispersed as isolated chains with a high density of isolated chains in the said transparent polymer of not more than 1x10¹⁹ cm⁻³. In particular the mixture of polymethylmethacrylate and poly(9,9-dioctyl-fluorene), a polymer film obtained with that mixture and use of that film as an optical switch are described.

WO 2005/042637 A3



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:

16 June 2005